

CLAIMS

What is claimed is:

1. A device for positioning a brush of a wafer cleaning system, the device comprising:
at least one light source positioned to generate at least one light beam across a plane; and
at least one light detector positioned to detect the at least one light beam;
wherein when the brush contacts the plane, the at least one light beam is interrupted by the brush.
2. The device of claim 1, wherein the at least one light detector generates a first indication if the at least one light beam is not interrupted by the brush, and a second indication if the at least one light beam is interrupted by the brush.
3. The device of claim 2, further comprising a processor for processing the first and second indications.
4. The device of claim 3, further comprising a controller responsive to the processor for automatically stopping the brush when the brush interrupts the at least one light beam.
5. The device of claim 1, further comprising a controller for automatically stopping the brush when the brush interrupts the at least one light beam.

6. The device of claim 3, further comprising a controller for manually stopping the brush when the brush interrupts the at least one light beam.
7. The device of claim 1, further comprising a controller for manually stopping the brush when the brush interrupts the at least one light beam.
8. The device of claim 1, further comprising at least one indicator light for indicating when the at least one light beam has been interrupted by the brush.
9. The device of claim 1, further comprising a calibration unit having a surface that defines the plane.
10. The device of claim 9, wherein the at least one light source and the at least one light detector are disposed on the surface of the calibration unit.
11. A wafer cleaning system comprising:
 - a wafer rotating mechanism;
 - a brush;
 - at least one light source positioned to generate at least one light beam across a plane; and
 - at least one light detector positioned to detect the at least one light beam;wherein when the brush contacts the plane, the at least one light beam is interrupted by the brush.

12. The system of claim 11, wherein the at least one light detector generates a first indication if the at least one light beam is not interrupted by the brush, and a second indication if the at least one light beam is interrupted by the brush.

13. The system of claim 12, further comprising a processor for processing the first and second indications.

14. The system of claim 13, further comprising a controller responsive to the processor for automatically stopping the brush when the brush interrupts the at least one light beam.

15. The system of claim 11, further comprising a controller for automatically stopping the brush when the brush interrupts the at least one light beam.

16. The system of claim 13, further comprising a controller for manually stopping the brush when the brush interrupts the at least one light beam.

17. The system of claim 11, further comprising a controller for manually stopping the brush when the brush interrupts the at least one light beam.

18. The system of claim 11, further comprising at least one indicator light for indicating when the at least one light beam has been interrupted by the brush.

19. The system of claim 11, further comprising a calibration unit having a surface that defines the plane.
20. The system of claim 19, wherein the at least one light source and the at least one light detector are disposed on the surface of the calibration unit.
21. A method of positioning a brush of a wafer cleaning system, the method comprising the steps of:
- generating a light beam across a plane;
 - advancing the brush toward the plane;
 - generating a first signal if the light beam is detected across the plane;
 - generating a second signal if the light beam is not detected across the plane; and
 - stopping the brush in response to the second signal.
22. A method of positioning a brush of a wafer cleaning system, the method comprising the steps of:
- generating a light beam across a plane;
 - advancing the brush toward the plane;
 - generating a first signal if the light beam is detected across the plane;
 - generating a second signal if the light beam is not detected across the plane;
 - stopping the brush in response to the second signal; and
 - calculating a position of the brush from information associated with the stopping of the brush.